CASE REPORT

A rare case of isolated macronodular hepatic tuberculosis (Tuberculous) in an immunocompetent patient

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Abstract

Tuberculosis is one of the most common and well described infectious diseases, with a world wide distribution and a vast spectrum of clinical manifestations. There are three forms of hepatic tuberculosis. Diffuse hepatic involvement with pulmonary or miliary tuberculosis, diffuse hepatic infiltration without recognizable pulmonary involvement is the second form and the third very rare form presents as a focal/local tuberculoma or abscess. In this case report we describe an unusual appearance of macronodular tuberculomas of the liver.

Keywords: Isolated liver tuberculosis, Tuberculoma, Liver mass.

Introduction

The local form of hepatic tuberculosis (TB) with no clinical extrapulmonary manifestations is relatively rare. Hepatic tuberculosis lesions that appear as masses larger than 2 mm in diameter are referred to as macronodular and pseudotumoural tuberculosis. In individual patients, lesions may be single or multiple.[1] Focal hepatic tuberculosis is rare and tuberculoma or tuberculous pseudotumours of the liver, in the absence of active extrahepatic tuberculosis, are extremely rare.[2] We describe an unusual appearance of macronodular tuberculomas of the liver.

Case Report

A 30-years-old female patient was admitted with abdominal pain, night sweats and weight loss of 15 kg during the past 3 months. The history and investigations of the patient were not remarkable for any immunocompromising condition. Physical examination revealed crackles at the right lung base, right upper quadrant tenderness and hepatosplenomegaly. Abnormal laboratory examinations was as follows: 7.9 g/dL hemoglobin, 27% hematocrit, 72 mm/hr E.S.R., 43 mg/dL C-reactive protein. LFT and AFP levels were all within normal limits. Abdominal ultrasonography showed hepatosplenomegaly and multiple masses in the liver. Contrast enhanced magnetic resonance imaging disclosed widespread multiple solid mass, the largest measuring 3x2.5 cm in diameter in the liver and multiple adenopathies, the largest measuring 2.5 cm in diameter, in the periportal area (Figure-1,2). Thorax computer tomography (CT) were within normal limits. An ultrasound guided biopsy of liver mass showed chronic lymhoplasmacytic inflammation with caseation necrosis and giant cells surrounded by epithelioid histiocytes (Figure-3). With all these findings, the patient was diagnosed as liver tuberculomas and antituberculous treatment was started. The disease markedly improved

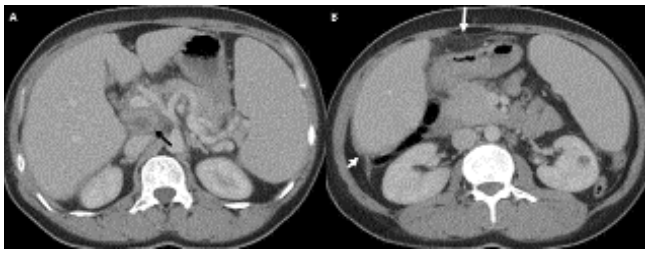

Figure-1: Contrast enhanced examination shows necrotic lymphadenopathies at the hilum of liver (A, arrow), mesenteric stranding secondary to enphlamation (B, long arrow) and perihepatic mild fluid (B, small arrow).

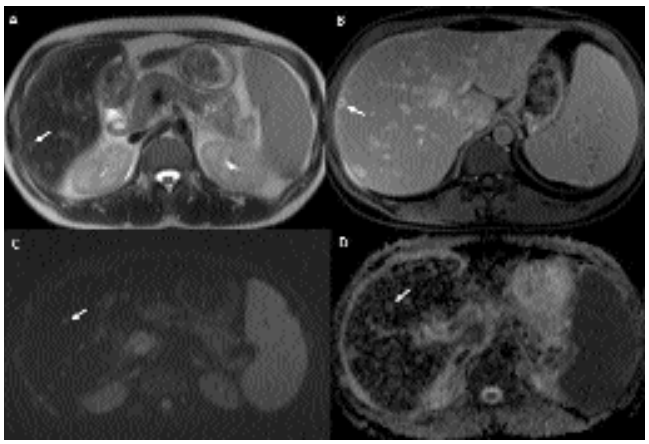

Figure-2: MRI examination demonstrate multiple heterogen hyperintense (A, arrow) and ring enhancing lesions (B, arrow). Also, diffusion restriction was seen in the lesions (C, D, arrow).

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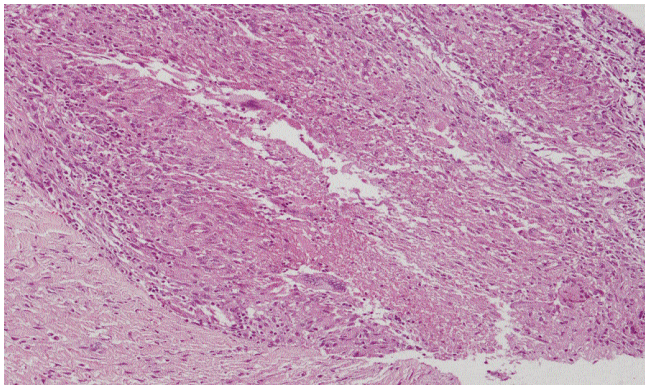

Figure-3: Caseation necrosis, giant cell and epithelioid histiocytes.

during the follow-up visits and in the 3rd month of follow up CT scan showed entirely normal liver without any lesions.

Discussion

TB is one of the most common and well described infectious diseases, with a worldwide distribution and a vast spectrum of clinical manifestations. Involvement of the liver alone by tuberculosis is uncommon.[1] Although studies have shown that miliary TB of the liver is quite common, isolated liver TB (ILT) is still considered as a rare condition. ILT results from tubercle bacilli gaining access to the portal vein from a microscopic or small tubercular focus in the bowel. Establishing the diagnosis is not easy, especially when extra hepatic evidence of TB is not present.[2] There are three forms of hepatic tuberculosis. Diffuse hepatic involvement with pulmonary or miliary tuberculosis is the most common form seen in 50% to 80% of hepatic tuberculosis. Diffuse hepatic infiltration without recognizable pulmonary involvement is the second form. The third very rare form presents as a focal/local tuberculoma or abscess. ILT is the rarest form of local hepatic tuberculosis.[3] Hepatic tuberculosis is constitutes less than 1% of all patients cases of tuberculosis.[1] Hepatic tuberculosis lesions that appear as masses larger than 2 millimeters in diameter are referred to as macronodular or pseudotumoural tuberculosis. On the basis of imaging examinations alone, these lesions are virtually indistinguishable from many other focal lesions of the liver, such as hepatocellular carcinoma, metastases and Hodgkin's disease. Thus, diagnosis requires histological examination.[4]

There is usually a difficulty for putting a diagnosis of nodular hepatic tuberculosis that presents as a space-occupying lesion. Although the common causes of hepatic masses include metastatic lesions and multi focal primary carcinoma of the liver, the patients with liver lesions from high prevalence regions of TB should always be suspected of having tuberculous liver disease. The incidence of TB-related systemic disease is increasing at an alarming rate, presenting an enormous challenge to physicians. The growing population of immunocompromised individuals due to changes in medical practice such as the use of intensive chemotherapy and immunosuppressive drugs resulting in immunosuppression creates a fertile soil for TB. The increased global prevalence of TB worldwide should bring TB to mind in the differential diagnosis of liver mass.

The diagnosis of TB is cumbersome. The radiological findings of hepatic tuberculosis are not specific although multiple hypodense lesions have been described on CT scan in cases of macronodular tuberculoma of the liver.[5] The radiologic diagnosis of hepatic tuberculoma is difficult and histopathologic diagnosis is required to distinguish tuberculosis from lymphoproliferative disorder, metastatic deposits and other granulomatous disease like sarcoidosis and fungal infection. The definitive diagnosis could be done with tests on histological and bacteriological evidence of tuberculosis. The histological picture of hepatic tuberculoma is usually that of a large epithelioid tumour composed of conglomerate tubercles with central caseation necrosis. Langerhans-type giant cells may be found in the granuloma and are surrounded by lymphohistiocytic cells, plasma cells and eosinophils.[6]

In summary, ILT should be included in the differential diagnosis of liver masses in immunocompetent patients at regions with high prevalance of TB.

References

1. Hsieh TC, Wu YC, Hsu CN, Yang CF, Chiang IP, Hsieh CY, et al. Hepatic macronodular tuberculoma mimics liver metastasis in a patient with locoregional advanced tongue cancer. J Clin Oncol 2011; 29: 641-3.
2. Chaudhary P. Hepatobiliary tuberculosis. Ann Gastroenterol 2014; 27: 207-11.
3. Wu Z, Wang WL, Zhu Y, Cheng JW, Dong J, Li MX, et al. Diagnosis and treatment of hepatic tuberculosis: report of five cases and review of literature. Int J Clin Exp Med 2013; 6: 845-50.
4. Singh S, Jain P, Aggarwal G, Dhiman P, Singh S, Sen R. Primary hepatic tuberculosis: a rare but fatal clinical entity if undiagnosed. Asian Pac J Trop Med 2012; 5: 498-9.
5. Cao BS, Li XL, Li N, Wang ZY. The nodular form of hepatic tuberculosis: contrast-enhanced ultrasonographic findings with pathologic correlation. J Ultrasound Med 2010; 29: 881-8.
6. Yu RS, Zhang SZ, Wu JJ, Li RF. Imaging diagnosis of 12 patients with hepatic tuberculosis. World J Gastroenterol 2004; 10: 1639-42.
7. Alvarez SZ. Hepatobiliary tuberculosis. Phil J Gastroenterol 2006; 2: 1-10.